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## ABSTRACT

The 2 approaches considered in this study for the construction of an English language arts program for Indian children are direct observation of children's language patterns and item-analysis of children's responses made to diagnostic test items. Some 225 children in grades 4 to 7 of an integrated elementary school on Vancouver Island, Canada, served as the subjects. Approximately one-third of the subjects were Indian. Results of the study indicate that Indian children have difficulty in vocabulary development and comprehension. Particularly, the Indian children have difficulty making use of connectives and prepositions. One implication is that the planning of a language arts program for Indian children be based on specificity of diagnosis and individual prescription rather than on vague, general test information such as grade placement scores. (Author/LS)

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## Indian Children And The Reading Program

a model for direct observation and test-item analysis as a  
basis for guidance in the formulation of a language arts  
program for Indian children

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# INDIAN CHILDREN AND

## THE READING PROGRAM

### ABSTRACT

Before consideration can be given to the construction of a language arts program for a group of Indian children, information related to specific weaknesses exhibited must be gathered. The two approaches used for this purpose in the present study were: (a) direct observation of children's language patterns, and, (b) item-analysis of children's responses made to diagnostic test items.

Subjects for the study were 225 children in grades four to seven of an integrated elementary school on the southern end of Vancouver Island, British Columbia, Canada. Approximately one third of the children were Indian.

Examination of the data revealed that many Indian children were having difficulty in vocabulary development and comprehension. This appeared to be related to poorly and narrowly developed concepts. Possible explanation seemed at least partly due to the fact that language for many Indian children tends to serve as a convenience more than a necessity in getting along socially and for verbal self expression.

The data suggested that Indian children tend to have difficulty making use of connectives and prepositions. Ability to respond appropriately to directives using prepositions appear to be the result of imitating non-verbal cues of teachers or other children rather than of understanding the idea of the verbal direction. Consequently, with such a limited use of language, many Indian children find it difficult to use language in complex ways such as to explain, to describe, to instruct, to compare, to analyze and to evaluate.

Implications of the study suggest that the planning of a language arts program for Indian children must be based on specificity of diagnosis and individual prescription rather than on vague, general test information such as grade placement scores.

"In an area where facts are few and speculation runs high, it is perhaps inevitable and to the good that people should look far afield for bodies of fact and theory that might be relevant. The price paid for this intellectual speed-trawling, however, is that some far-fetched ideas occasionally capture the imaginations of people who do not understand them well enough to appreciate their fundamental irrelevance" (Bereiter and Engelmann, 1966, pg. 26). Such has been the case with reference to many of the problems of Indian education. Solutions to questions which range from what the language arts program should include, to whether Indian schools should be integrated, are commonly sought far afield from the area in which the problem exists. If the problems are to be solved, however, much more data than are available at present must be gathered and analyzed in terms of immediate relevance to the problems at hand. This becomes especially true when considering a basic question such as the reading achievement of a certain group of children, for example, the Indian children of a certain specified population.

Going far afield for bodies of fact and theory that might be relevant to the problem of reading difficulty among certain Indian children leads to a consideration of many possible explanations for the difficulty. Among the

possibilities available for consideration is Bereiter and Engelmann's (1966) suggestion that cultural deprivation be looked at as language deprivation. Lest we err, however, in our zeal to do missionary work among the disadvantaged, we must be cautious in bringing this promising but far-fetched idea, born of the Negro ghetto, to the Indian reserve.

Language deprivation among the disadvantaged Negro children, referred to by Bereiter and Engelmann (1966), seems to center around two special weaknesses of language usage that are of primary importance for success in school. "One is the tendency to treat sentences as giant words that cannot be taken apart and recombined. This leads to an inflexible kind of language that does not make use of the full potentialities of the grammar and syntax, and it makes the learning of new vocabulary and structures more difficult. The second weakness ... is a failure to master the use of structural words and inflections which are necessary for the expression and manipulation of logical relationships. The problem for culturally deprived children is not so much learning to speak in sentences as learning to speak in sentences that are composed of discrete words" (pg. 42).

Before setting about the construction of a language arts program for Indian children in order to take advantage of these interesting findings with regard to language dis-

advantage of Negro children, it is necessary first to question whether language disadvantage of Negro children is in fact isomorphic with or even similar to that of certain Indian children. We must ask about the nature and extent of language disadvantage of the population of Indian children in question and then on the basis of the answers we are able to arrive at, try to formulate a language arts program for that specific group of children. Do Indian children show the special weaknesses of language development which seem to be characteristic of lower-class non-Indian children? That is, do they tend to treat sentences as giant words and also fail to master the use of structural words and inflections which are necessary for the expression and manipulation of logical relationships? If so, are these the only weaknesses of the language development of certain Indian children?

Before it is possible to construct a helpful language arts program for a group of children, specific information about these questions with regard to these children must be gathered.

There are several related ways of going about seeking this kind of information. Two approaches which are reported here have to do with direct observation of children and item analysis of children's responses made to diagnostic test items. Both approaches have the property of being

complimentary to each other and in addition immediately available to the classroom teacher who, in the final analysis, carries the responsibility for the implementation of all learning programs.

### Background

The approach being followed in the present attempt to identify specific difficulties in the language development of a specific group of Indian children in the elementary grades and then to plan a language arts program for them involves going far afield for the idea that it might be useful to consider cultural deprivation as language deprivation and then to question how this general idea might be relevant to the particular language and reading difficulties of a certain group of children. The general methods of procedure become that of teacher observations of language patterns of Indian children and item analysis of responses made to diagnostic test items. Information so gathered then serves as clues, giving guidance for the construction of meaningful language arts experiences. Item analysis of responses to tests, such as those in reading, is an absolute must if tests of this sort are to be useful in terms of planning new learning experiences for disadvantaged children. It isn't very helpful simply to know that certain children are reading at a particular level. Knowledge of a grade place-

ment score really provides no information with regard to what the learning experiences should be. This information is available only through careful observation of children's daily behavior and item analysis of the responses children make to specific test items.

The children involved in the present study are residents of a community on Vancouver Island in British Columbia. The area is composed predominately of loggers and farmers numbering approximately 15,000. The data presented represent reading test scores and observations made by teachers of a group of Indian and non-Indian children from this area. All the children are in the intermediate grades (grades four - seven) of an integrated elementary school. The total school population is approximately 225, of which one-third are Indian children.

In September these children were grouped for reading on the basis of their grade placement scores on the Gates Reading Survey, Form one. There were three groups:

Group I ... grade placement 2.5 - 4.5

Group II .. grade placement 4.5 - 6.0

Group III . grade placement 6.0 - above

Throughout the school year, September - June, the children were instructed in more or less a conventional reading program as outlined by West, Powers and Parliament (1964). In June, Form two of the Gates Reading Survey was



administered. The score reflecting achievement levels and increases for various sections of the test were recorded for all Indian and non-Indian children.

Test results from this reading program indicated a difference both for level of achievement and gains made by Indian and non-Indian pupils. These results, reported in terms of achievement level and gains made for vocabulary, comprehension and speed, are presented in Table one.

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Insert Table one about here

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It is immediately apparent that the Indian children do not achieve as well as the non-Indian children in any of the areas of reading. It is also apparent that increases made in vocabulary and comprehension by Indian children are significantly less than those made by non-Indian children (Table two) during the ten-month school year.

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Insert Table two about here

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These observations suggest that as time progresses Indian children fall further and further behind non-Indian children in reading achievement. In fact, it is noted that by the end of a ten-month period, achievement for this group

of Indian children has not reached the non-Indian's initial (September) level of achievement.

Although increases made in reading speed are not significantly different for the two groups, the Indian children read much slower than the non-Indian children. However, when one examines the relatively poor gains made by the Indian children in vocabulary and comprehension, their normal gain made in reading speed leads one to suspect that perhaps these children are really gaining only in word-naming skill rather than in understanding of word concepts. Whereas the non-Indian children appear to achieve satisfactorily, the Indian children do not. This suggests that the conventional reading program designed essentially for non-Indian children is not adequate for Indian children.

Item Analysis and Observation: a model

In the past it has been common practice among teachers to gather from tests grade placement information about children and then to use this information as an aid for grouping. For the most part, such a practice has proven to be fairly successful when considering progress of average white children for whom reading programs are essentially designed. However, when one is concerned with progress of less advantaged groups, for example, certain groups of Indian children, it becomes apparent that the de-

sign and methodology of the reading program must be modified. It is questionable to generalize a reading program designed for all children to a group of similar children in any specific classroom; it is even more questionable to generalize such a program to a specific group which shows the wide range of differences displayed in culturally integrated classrooms.

When grade placement scores are used as a major variable in grouping children for reading, the assumption is often made that the important differences among children are those of reading rate (amount of material covered to date, number of books completed, ...) rather than the kinds of language experiences to which children have been exposed. Test scores used for this purpose have the limitation of not providing information with regard to exactly what the reading program should include for each group, let alone for each individual. It is not sufficient to apply the same program to all children even if at different rates. This view is in agreement with current thinking; for example, Stones (1967) believes that extending the range of experience of children who are backward will not automatically remedy existing difficulties. He suggests that a systematic attack on the specific deficiencies underlying failure to learn is needed. That is to say, even a continuous progress approach is inadequate. Individualization

must occur. However, before a teacher can individualize a reading program she must be able to determine the specific strengths and difficulties of each child.

### Procedure

Those teachers involved in this study were dissatisfied with the progress in reading being made by most of the Indian children. The teachers felt the reading program was not very meaningful in terms of helping certain Indian children progress at a satisfactory level. Over a period of time these children tended to fall further and further behind the non-Indian children in all areas of reading, especially in vocabulary and comprehension as measured by the Gates Reading Test. Even though the teachers were well aware of the fact most Indian children were not progressing satisfactorily, they found the grade placement scores of little value in offering suggestions for modification of the reading program. What the teachers desired for planning language experiences was a method of making effective use of information at hand, especially of their observations of language patterns and children's responses to test items.

The teachers were instructed in a technique of conducting an item analysis of the children's responses to reading test items. They were also given instruction in

making and recording careful observations of language patterns of children.

In conducting an item analysis the teachers recorded all incorrect responses made to all test items. This was done by listing the number of each test item in rows on squared grid paper. Identification numbers assigned to children were listed in columns. The number of the incorrect response, as well as an X for omissions was recorded for each child in a separate square to the right of the item number in the column assigned that child.

With this procedure an examination of the incorrect responses by rows results in a graphic representation of the frequency with which particular items are missed by the group as a whole as well as an indication of the specific kinds of errors the group is making. An examination of the incorrect responses by columns provides information about each child with regard to his specific strengths and weaknesses on that reading sub-test; furthermore, this examination provides specific information which may serve as a basis for grouping according to similar strengths or deficiencies rather than simply grouping on the basis of grade placement scores.

As a result of following the procedure outlined above, the teachers were able to detect specific strengths and deficiencies of each child. At the same time they gained

specific information about the total group's performance on each item tested. The simple act of recording the students' responses in such a manner made it immediately apparent that there was no alternative for flexible grouping, and that grouping must be based on the need for specific kinds of experiences.

Their results indicated that for some kinds of reading experiences the class could be treated as one group. For other kinds of specific reading experiences, however, their results suggested the formation of groups of one or more on a temporary basis.

Examination of their data revealed that certain children were having difficulty in the areas of vocabulary and comprehension because of very limited and narrow concept development; for example, the concept combat, for most of the Indian children and to a lesser degree non-Indian children, meant army ... the specific army involved in the television program "Combat". Another example of certain children's limited and narrow concept development was evidenced through observation of their language responses to the meaning they attached to the word core. For many Indian children this word held no meaning; an apple-core was simply the bones of an apple. The word leaf for many of these children meant only the leaf of a maple tree. The word leaf did not refer to the leaves of other trees in

the area, for example, evergreen leaves, not to mention the leaves in a book or magazine. Imagine the meaning for these children of a teachers's direction: "Leaf through your book, please." (The teachers observed that when given this direction the children did turn their pages at the command, suggesting they understood the meaning of leaf in this context. Upon closer observation, however, it was also noticed that many children turned pages only after others started to do so, indicating they were imitating the behavior of others.)

Other sources of difficulty in concept formation for certain children within the specific areas of vocabulary and comprehension were found to involve the following examples:

- a. word configuration: inspiration chosen as a synonym for vibration from a choice of offense, inspiration, spirit, flying, shaking; adventurous chosen as a synonym for tumultuous from a choice of fluffy, grand, cloudy, adventurous, disorderly.
- b. word sounds: growl, chosen as a synonym for haul from a choice of push, hold, drag, tear, growl.
- c. confusion of synonyms with antonyms: little chosen as a synonym for big from a choice of

little, large, easy, new, fix.

- d. confusion in the identification of word roots:  
embrace chosen as a synonym for bracelet from  
a choice of jewelry, pair, tool, embrace,  
splint; tale chosen as a synonym for talent  
from a choice of trade, time, prize, skill,  
tale.
- e. environmental influences: arrive chosen as a  
synonym for overcome from a choice of play,  
fear, cut, arrive, defeat; hymn chosen as a  
synonym for miracle from a choice of hymn,  
wonder, peak, atom, shackle; group chosen as  
a synonym for massacre from a choice of group,  
enlarge, manage, slaughter, section.

The teachers were at a loss to explain conceptual errors such as those listed in section e above in terms of the usual deficiencies in word-attack skills. It was only through careful observation that a logical explanation could be made for such choices. The explanations seemed to lie in environmental experiences; for example, it was learned through talking with the children that arrive meant come over, hence overcome; that hymn and miracle were terms heard frequently in church; and, a group of people attended mass, hence, massacre. There were many additional examples of how item analysis helped these teachers focus their



observations in an attempt to discover explanations for incorrect responses. It was learned that for many children the words cool and cold could be associated only with winter and hence could not be understood when used as adjectives to modify nouns such as clothes and lemonade. Limited environmental experiences were again evidenced in many Indian children's belief that plant life depends upon soil to the exclusion of other necessities, light, water and air. Sailing vessels of all kinds are boats and only boats for most of these children. Ship refers to an airplane. In similar fashion, the word fashion exists for only a small number of these children and then only in the context of something being old-fashioned. Fashion in the sense of style, or a conventional manner simply has no meaning.

Observations which derived from the process of item analysis led to observations in other areas of language development. It was observed that for purposes of getting along socially and of self-expression, language was more a convenience than a necessity for the young Indian child. It was quite possible to make one's wants known, to enter actively into play and other social relationships, and to give vent to one's feelings with little or no use of language. As Bereiter and Engelmann (1966) point out, young deaf children do this and it appears that Indian children also rely to a considerable extent on nonverbal

means for these purposes. Language is apparently dispensable enough in the life of the young Indian child for an occasional child to get along without it altogether. Frequently was the report given by these teachers of instances in which a child failed to speak even a single word in class for periods of time extending to months. Such children, however, were often indistinguishable from their peers in other areas of behavior, for example participation in games on the playground.

Furthermore, it was observed that certain Indian children tended to be weak in their ability to make effective use of connecting words such as prepositions and conjunctions. Rather than following through with appropriate responses cued by certain verbal directions, many Indian children seemed to rely on non-verbal cues provided by the teacher for information on what response to make. The important cues for appropriate responding to directions such as "please go around the desk", or "line-up in front of the door", seemed to be pointing, looking and other gestures made by the teacher while giving the direction, or the behavior of some child who understood the verbal direction. Upon close observation, it was discovered that nearly all verbal directions were accompanied by a variety of non-verbal cues. With experimenting it soon became apparent that without non-verbal cues many Indian children were not

able to follow through with responses appropriate to the requests.

Typically speech of the Indian children seemed to consist not of distinct words, but rather of whole phrases or sounds that function like huge words. Expressions such as: "What are you doing?" sounded like "Wa-ch-dn?"; "Where are you going?" like "Whr-ya-gn?" These large words which come to stand for the complete expression are not really uncommon in non-Indian language patterns. They occur frequently in the everyday conversation of most English-speaking groups. In fact, as Bereiter and Engelmann (1966) find with certain Negro children, once the listener, and for that matter even the teacher has become accustomed to this type of speech, the teacher may actually begin to hear it as if all the sounds were there, and may get the impression that articles, conjunctions, prepositions, and so forth are being heard when in reality there may only be a pause where the omitted word should be. The teacher may believe the child is using these words when in fact he may be using one sound for all of them or leaving them out entirely.

This pattern of early speech development could be expected to create more of a problem for Indian and other groups with language handicaps than for middle-class white children. Whereas white children have in their repertoire

of responses the necessary information to fill-in the hurried-phrases, Indian children do not seem to recognize that their large words are a kind of substitute for a more explicit and precise phrase. For many of these young Indian children, the large words are all there is to an expression. And such inflexibility of words to combine and re-combine, to be transformed from statements to questions, and so on, presents serious difficulties for young Indian children in learning to read.

#### Discussion

Language becomes a virtual necessity when one moves from the social uses of language to the transmission of knowledge from one person to another and to the performance of certain operations with concepts (Bereiter and Engemann, 1966). From what was observed by teachers about verbal communication in many Indian homes, it would appear that the cognitive uses of language are severely restricted, especially in communication between adults and children. Language appears to be used primarily to control behavior, to express feelings and to a degree emotions, and to keep the social machinery of the home running smoothly. These, of course, are important uses of language. Many Indian people seem more skillful in them than better-educated non-Indian people. Especially skillful are Indian

people and even very young Indian children in completely non-verbal communication. Indian children learn early to pay particular attention to non-verbal directional cues from parents as well as brothers and sisters in order to gain information about how they should behave. These children display remarkable ability in visual discrimination and in imitating the behavior of others. With no verbal directions at all, even very young Indian children, ages four or five, follow complicated sets of directions.

What appears to be lacking, however, is the Indian child's use of language to explain, to describe, to instruct, to inquire, to compare, to analyze and so forth. And as pointed out by Bereiter and Engelman (1966), who found very similar language difficulties in culturally deficient Negro children, these are the very uses that are not developed in Indian homes to the degree normally observed in middle-class white homes because deliberate verbal teaching does not seem to be a normal or necessary part of the adult Indian role. Hence, neither the skills nor the language peculiar to teaching are developed and maintained. Bernstein (1961) discusses similar language difficulties among other disadvantaged children. He refers to this distinction as public and formal language development.

Language deprivation, then, has a double edge. The

Indian child is not without language, but he is deprived of that part of language that can only be acquired through verbal teaching - the knowledge, the meanings, the explanations, the ability to question in search of information. Beyond that, the child seems to spend his early childhood in an environment where verbal teaching does not frequently take place and where language with which verbal teaching is carried out is not used; therefore, he may never learn how to be taught, and when he is exposed to the typical verbal teaching of the classroom, he may behave much as if he were mentally retarded or devoid of language altogether.

#### Implications

Essential to the formation of an effective language arts program for these Indian children seems to be a continuing emphasis on concept development; that is, a continuing effort must be directed towards the expansion of meaning for limited and narrow concepts.

Caution and precision must be exercised by the teacher in the verbal models she presents which make use of connecting words and prepositions. Care must be taken to emphasize the small words in sentences which are often not heard clearly by the Indian ear.

Teachers must be aware of the fact that Indian child-

ren learn effectively through a process of imitation. This has its advantages as well as its drawbacks. Non-verbal cues which might be imitated may be effective in helping bring about certain desired responses, however, while so doing many opportunities for language development are missed. Indian children come to rely on the non-verbal cues to the exclusion of the verbal exchange necessary for language growth. An advantage of this highly developed ability to imitate may be capitalized upon through providing clear, verbal models of the desired responses to be made by the child; for example, the teacher encouraging the child to speak in clear, complete sentences by providing him a model of the sentence in clear diction and intonation. A further drawback of a highly developed ability to imitate is the danger of Indian children learning to parrot the names of words without understanding their meanings. Consequently, words should appear always in a context meaningful for these children. This drawback, coupled with limited and narrow concepts suggests that perhaps an important part of the language program should involve an emphasis on word games, oral reading and the development of listening skills. As Luria (1959) suggests, the aim should be to unlock words from single and restricting situations. Perhaps teachers with these children should read and discuss more stories than they might do with other children with fewer language

handicaps.

Although many of the components of the language arts program as designed by these teachers for these children are common to other programs of language development, the specific emphases based upon their observations and test item analysis are applicable only to this group of children. To assume that their results will generalize totally to other groups of children is as dangerous as to group children simply on the basis of grade placement scores.



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Table 1

Comparison Between Indian and Non-Indian Children of  
Scores Made from September to June on Speed, Comprehension  
and Vocabulary Sub-tests of the Gates Reading Survey.

Reading Speed

Date	Group	Number	Mean	S	t
Sept.	Indian	28	13.46	4.50	4.13*
	Non-Indian	36	18.47	5.09	
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June	Indian	28	17.00	4.29	3.66*
	Non-Indian	36	20.93	5.49	

\* (p < .05)

Reading Comprehension

Date	Group	Number	Mean	S	t
Sept.	Indian	28	17.89	4.84	2.25*
	Non-Indian	36	20.50	4.27	
June	Indian	28	18.94	4.41	4.84*
	Non-Indian	36	25.07	5.52	

\* (p < .05)

Reading Vocabulary

Date	Group	Number	Mean	S	t
Sept.	Indian	28	23.18	4.43	2.23*
	Non-Indian	36	26.00	5.53	
June	Indian	28	26.29	5.18	5.64*
	Non-Indian	36	33.12	5.55	

\* (p < .05)

Table 2

Comparisons Between Indian and Non-Indian Children of Increases From September to June, on Speed, Comprehension and Vocabulary Sub-tests of the Gates Reading Survey.

Groups	Number	Mean Scores		Increases	Standard Deviation	t
		September	June			
Speed						
Indian	28	13.46	17.00	3.54	4.93	.86
Non-Indian	36	18.47	20.93	2.46	4.55	
Comprehension						
Indian	28	17.89	18.94	1.05	4.33	2.75*
Non-Indian	36	20.50	25.07	4.57	5.60	
Vocabulary						
Indian	28	23.18	26.29	3.11	5.29	2.70*
Non-Indian	36	26.00	33.12	7.12	6.21	

\* (p < .05)